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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/749,586

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Mutsumi Mitarashi

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EXAMINER

NGUYEN, LONG T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/749,586

**Applicant(s)**

MITARASHI, MUTSUMI

**Examiner**

Long Nguyen

**Art Unit**

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/02/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed limitation that a substrate of each the seventh and eighth n-channel type MOS transistors is connected to its respective source or drain recited in claim 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of numerous minor informalities throughout the specification. For example, “wherein gate” on line 2 of page 10 should be changed to --wherein a gate--; “transistor (11) functioning” on line 3 of page 12 should be changed to --transistor (11) which functions--; “the second output node (N4)” on line 20 of page 12 should be changed to --a third output node (N4)-- because the second output node is node N3 (see line 13 of page 12), etc.

Applicant is requested to review the entire specification to correct any errors, including grammar problems, of which applicant may become aware in the specification. Appropriate correction is required.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

In particular, the specification fails to provide proper antecedent basis for the limitation that a substrate of each of the seventh and eighth p-channel MOS transistors is connected to its respective drain (recited in claims 4 and 10). Note that the specification only discloses that a substrate of each of the seventh and eighth p-channel MOS transistors is connected to its respective source (see page 31, line 17-18). Also, the specification also fails to provide proper antecedent basis for the limitation that the a substrate of each the seventh and eighth n-channel type MOS transistors is connected to its respective source or drain (recited in claim 16). Clarification and/or correction of the above is required.

### *Claim Objections*

4. Claims 1-18 are objected to because of the following informalities:

Claim 1, line 5, “the” should be deleted.

Art Unit: 2816

Claim 1, line 6, "wherein gate" should be changed to --wherein a gate--.

Claim 1, line 7, "functioning" should be changed to --which functions--.

Claim 1, line 7-8, "wherein gate" should be changed to --wherein a gate--.

Claim 1, line 8, "functioning" should be changed to --which functions--.

Claim 1, line 13, "in common" should be deleted.

Claim 1, line 14, "has third" should be changed to --has a third--.

Claim 1, line 15-16, "and second" should be changed to --and a second--.

Claim 1, line 16, "its gate" should be changed to --a gate of said third p-channel type MOS transistor--.

Claim 1, line 17, "has third" should be changed to --has a third--.

Claim 1, line 19, "its gate" should be changed to --a gate of said third n-channel type MOS transistor--.

Claim 1, line 20, "has fourth" should be changed to --has a fourth--.

Claim 1, line 22, "its gate" should be changed to --a gate of said fourth p-channel type MOS transistor--.

Claim 1, line 23, "of second output node of said first intermediate circuit" should be changed to --of said second output node--.

Claim 1, line 25-26, "its gate" should be changed to --a gate of said fourth n-channel type MOS transistor--.

Claim 1, line 27, "puts out" should be changed to --outputs--.

Claim 1, line 30, "and fourth" should be changed to --and a fourth--.

Claim 1, line 32, "wherein gate" should be changed to --wherein a gate--.

Art Unit: 2816

Claim 1, line 33, "functioning" should be changed to --which functions--.

Claim 1, line 33-35, "a signal having electric potential of second output node of first intermediate circuit," should be changed to --said electric potential of said second output node,--.

Claim 1, line 35, "wherein gate" should be changed to --wherein a gate--.

Claim 1, line 36, "functioning" should be changed to --which functions--.

Claim 1, line 39, "in common" should be deleted.

Claim 1, line 40, "put out" should be changed to --output--.

Claim 1, line 43, "between common node of first" should be changed to --between a common node of said first--.

Claim 1, line 44-45, "in series and second output node N3 of said first intermediate circuit and which gate is" should be changed to --and said second output node, wherein a gate of said seventh p-channel type MOS transistor is--.

Claim 1, line 48, "between common node of fifth" should be changed to --between a common node --.

Claim 1, line 49-50, "in series and third output node of said second intermediate circuit and which gate is" should be changed to --and said third output node, wherein a gate of said eighth p-channel type MOS transistor is--.

Claims 2-6 are objected to because they include the informalities of claim 1.

Claim 2, it is suggested that "turning on" throughout of this claim be changed to --the turn-on--.

Claim 2, it is also suggested that "set" on lines 3, 5, 8, 10, 13, and 16 be deleted.

Claim 3, line 2, --a-- should be inserted before "substrate".

Art Unit: 2816

Claim 3, line 3, "with source" should be changed to --with a source--.

Claim 3, line 4, "and substrate" should be changed to --and a substrate--.

Claim 3, line 6, "with source" should be changed to --with a source--.

Claim 3, line 8, "transistor." should be changed to --transistors.--.

Claim 4, line 2, "substrates" should be changed to --a substrates of each of--.

Claim 4, lines 3-4, it appears that the recitation "are connected with each source or each drain" needs to be changed to --is connected to a respective source of each of said seventh and eighth p-channel type MOS transistors--.

Claim 5, line 3, "transistor." should be changed to --transistors.--.

Claim 6, line 3, "put out" should be changed to --output--.

Claims 7-18 contain numerous similar informalities as discussed in claims 1-6 above.

Thus, claims 7-17 are objected to for the similar reasons as in claims 1-6

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the recitation "fourth p-channel type MOS transistor connected between the high voltage electricity source and the second output node" on lines 20-22 is misdescriptive because it is inconsistent with what is shown and disclosed. Note that the claim

Art Unit: 2816

already recited that the third p-channel type MOS transistor (31, Figure 1) connected between the high voltage source (VDD) and the second output node (N3); and it is clearly from Figure 1 that the fourth p-channel transistor (41) does not connected to the second output node (N3). It is clearly from Figure 1 that the fourth p-channel type MOS transistor (41) connected between VDD and node N4. Note that the same discussed also applied to other Figures. Thus, it appears that “the second output node” on line 22 needs to be changed to --a third output node--, and this change is also necessary to provide proper antecedent basis for “the third output node” on line 24-25.

Claims 2-6 are indefinite because they include the indefiniteness of claim 1.

Also in claim 3, the recitation “isolated from substrate of said first, second, fifth and sixth n-channel type MOS transistor” on lines 6-8 is indefinite because it is not known what is isolated from substrates of said first, second, fifth and sixth n-channel type MOS transistors.

Also in claim 4, the recitation “isolated from substrate of said first to sixth n-channel type MOS transistors” is indefinite because is it not known what is isolated from substrate of said first to sixth n-channel type MOS transistors.

With respect to claim 7, the recitation “fourth p-channel type MOS transistor connected between the high voltage electricity source and the second output node” on lines 20-22 is indefinite for the similar problem as discussed in claim 1.

Claims 8-12 are indefinite because they include the indefiniteness of claim 7.

Claims 9 and 10 are also indefinite for the similar reasons as discussed above with regard to claims 3 and 4, respectively.



Art Unit: 2816

With respect to claim 13, the recitation "fourth p-channel type MOS transistor connected between the high voltage electricity source and the second output node" on lines 20-22 is indefinite for the similar problem as discussed in claim 1.

Claims 14-18 are indefinite because they include the indefiniteness of claim 13.

Claims 15 and 16 are also indefinite for the similar reasons as discussed above with regard to claims 3 and 4, respectively.

*Allowable Subject Matter*

7. Claims 1-18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and to overcome the informalities set forth in this Office action.

Claims 1 and 7 would be allowed because the prior art of record fails to disclose or suggest a level shifter circuit which includes first to sixth n-channel MOS transistors, and first to eighth p-channel MOS transistors with the recited connections and operations set forth therein. In particular, the prior art fails to disclose or suggest that the level shifter circuit including the seventh and eighth p-channel MOS transistors in combination with other elements recited therein.

Claims 2-6 and 8-12 would be allowed because they depend on claims 1 and 7, respectively.

Claim 13 would be allowed because the prior art of record fails to disclose or suggest a level shifter circuit which includes first to eighth n-channel MOS transistors, and first to sixth p-channel MOS transistors with the recited connections and operations set forth therein. In particular, the prior art fails to disclose or suggest that the level shifter circuit including the

Art Unit: 2816

seventh and eighth n-channel MOS transistors in combination with other elements recited therein.

Claim 14-18 would be allowed because they depend on claim 13, respectively.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directly to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 17, 2004



Long Nguyen  
Primary Examiner  
Art Unit: 2816